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ABSTRACT

This paper on facilitating skill development of infants and toddlers with disabilities within family-child routines focuses on: (1) developing a routine analysis by incorporating multiple Individual Family Service Plan (IFSP) objectives into family-selected routines; (2) utilizing systematic family training procedures to integrate targeted skills into routines; and (3) determining generalization of parent skills. The routine analysis requires conducting multidisciplinary and multipurpose assessments of the child, determining high-preference and low-preference routines and social interactions within the family, determining which specific IFSP objectives can best be incorporated into the targeted routine, determining the level of caregiver skills, and developing a routine sequence. Family training procedures then call for an intervention team member to conduct the routine with the child and another team member to videotape the routine, and having the family caregivers observe the routine and later review the videotape, conduct the intervention at the next visit, and receive feedback. Generalization of parent skills is exhibited when the parent incorporates objectives from old routines into a new routine. (JDD)

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FAMILY FOCUSED INTERVENTION STRATEGIES

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FACILITATING INFANT/TODDLER SKILLS IN FAMILY-CHILD ROUTINES

DEC Conference

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FACILITATING INFANT/TODDLER SKILLS IN FAMILY-CHILD ROUTINES

The literature in early childhood intervention often refers to using caregiver routines for targeting intervention objectives. However, this practice is not well defined, nor is information available on the systematic procedures for training families to incorporate multiple teaching objectives into caregiving routines. As one mother stated, "It makes sense to work on skills in Suzie's bathtime since she enjoys it, but my major objective is to give her a bath. I do not naturally include the skills we're working on in caregiving routines." It may be unrealistic to expect families to generalize skills learned in isolation or one activity to another routine or activity. This paper will describe aspects of facilitating infant/toddler skills in family-child routines. These aspects include:

1. Developing a routine analysis by incorporating multiple IFSP objectives into family selected routines,

2. Utilizing systematic family training procedures to integrate targeted skills into routines,

3. Determining generalization of parent skills.

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Developing a Routine Analysis

A number of process steps are involved to integrate multiple objectives into a family or caregiver routine. Public Law 99-457 reflects the need to have multidisciplinary assessments and team members to plan and carry out the infant/toddler's intervention program. Yet, observations of intervention activities show that skills are often taught in isolation. There are two probable reasons for this. First, professionals are concerned about "intruding" into family routines. Second, there are no clear, systematic procedures of how to utilize routines for targeting multiple, integrated objectives into the multiple routines that are available. There is one basic premise of this paper: the need to target both social interactive skills and those skills that will be important when the child is 6, 12, or 21-years old. The more severely impaired a child is, the more these basic premises need to be considered. The following process steps will be described in the development of a routine analysis:

- Conducting multidisciplinary, multipurpose assessments
- Determining priority skills/needs with the family
- Determining high-preference and low-preference routines and social interactions within the family
- Determining potential special needs based on individual child needs in targeted routines
- Conducting a "Routine Analysis" of targeted routines
- Determining which specific IFSP objectives can best be incorporated into the targeted routine
- Determining the level of caregiver skills
- Developing a routine sequence based on the three stages of:
  - preparation
  - participation
  - termination

Professionals developing a routine analysis should consider three major principles. First, the child needs a Reason to perform any task. Each child's individual skills and needs must be considered to determine what would motivate the child to engage in the behavior. For example, a child with cerebral palsy may need a motivating auditory and/or visual stimulus or consequence to hold his/her head erect. A child who is dual vision-hearing impaired may need a very different reason. Second, a child should receive every advantage to Succeed at performing a skill. This means that the child must be positioned correctly, with possible environmental adaptations. Additionally, the skill should be broken down into small steps with the least amount of physical assistance being provided. Third, every skill that is taught should be Functional and lead to a higher level skill.

Conducting Multidisciplinary, Multipurpose Assessments

Utilizing routines for teaching skills requires more than multidisciplinary and multipurpose assessments. It also requires multidisciplinary planning. The motor skills that may be necessary for bathing may be somewhat different than for eating or undressing. The IFSP child objectives for one child are outlined in Table 1. The routine and the locations of the routine will determine which specific objectives can best be incorporated into the routines. For example, the motor skills for the same child will be somewhat different depending if the child is bathed in the kitchen sink or in a bath sling in the family's bathtub. Additionally, the content for the communication objectives will be selected specific to the different routines. The Communication Assessment (Attachment A) of different levels of forms and functions across a number of routines demonstrates how the assessment process should also be based on the specific environmental context.

Determining Priority Needs/Skills

Both the skills and needs of both the child and the family must be considered in determining which objectives and routines will be selected initially. The family guides the decision-making process unless critical health issues must be prioritized, as in a failure-to-thrive infant. Assessment results that profile the child's demonstrated skills must be considered to determine how those skills can best be used to teach new skills. Too often, only the child's general strengths are considered. For example, if a child displays a grasping skill and a reach to touch skill, that child will most probably be more successful in acquiring a reach to grasp skill than a child who has only one component of that skill. It is important that professionals share this information with the parent so that parents have adequate information to make decisions.

Determining High-Preference and Low-Preference Routines

The family determines if a high-preference routine or low-preference routine will be initially selected. Some families may want to address "eating" or "bathing" as a routine in which neither the child or parent enjoys. Adaptive equipment or specialized techniques may assist in reducing both the child's and/or parent's needs (example - use of a bath sling for bathing). Other families may want to target a pleasurable routine initially. It is the responsibility of the professionals to provide information of "best fit" to the parents. A child will not communicate, "want more" if feeding is difficult; nor participate in "continued movement" if he/she screams during bathing. Families should also have a choice of targeting both a high-preference routine and a low-preference routine. The overall goals of targeting skills in one or the other routines are different. If the routine is stressful, the target is to increase a daily life skill and interactions. If the routine is pleasurable, the daily life skill can be "utilized" to incorporate other objectives into it in order to make them functional.

Social interactional routines, both with and without objects, are a critical aspect of any intervention program. Whereas, joint action, joint attention, turn-taking and family responsiveness will be a major focus for all children (at different levels), many other skills can be incorporated into these routines as well. For example, many of the motor exercises can be taught in an interactional game format. These play routines have the potential for the child to anticipate the final steps in the routine. Auditory, visual, cognitive, and communication skills can be systematically incorporated into the games.

Determining Potential Special Adaptations and Needs

The potential special needs of the child and family should be considered before conducting a routine analysis. As an example, a child may enjoy bathtime and yet tend to have seizures when chilled. A terry cloth robe with a hood will help mother so she doesn't have to negotiate two towels. A bath sling or ring may be necessary for some children and families in order for the child to feel secure and for Mom to have both hands free. Both Mom and the team can determine what activities may need to be arranged prior to the routine. For example, the hair dryer and diaper may be out and ready so the child doesn't get chilled. A small stool by the bathtub may help decrease the strain on Mom's back. For a child who is blind, an adaptive lip plate and curved spoon may be needed for feeding. An insert may need to be made for a child's stroller so the child is well positioned. Any adaptive equipment that is used in the community should be as "normalized" as possible.

Conducting a "Routine Task Analysis"

It is recommended that a team of professionals initially conduct the routine as the caregiver. One of the team members will conduct the routine and verbalize the objectives and techniques that can be incorporated into the routine. The other team member and the parent can also add objectives that

can be integrated into the routine. The second team member writes the routine analysis down. Table 2 shows generic caregiver/child skills that are applicable across every routine. The specific activities and cues provided as an example in Table 2 are for an infant who is vision/hearing impaired and severely motor and cognitive impaired. Examples for a child with Down syndrome would look very different even though similar generic skills would apply.

It is almost impossible and very intrusive to place a parent as the caregiver when the routine analysis is being conducted. However, the parent plays a vital role in giving input, such as, "I usually do that like this or she really seems to like it when I do this." This should be a dynamic team planning process in which the parent is a critical partner. Parents should also be encouraged to voice problems that occur for them when they carry out the routine, such as, "Is there an easier way for me to get the stroller or chair in and out of the car?"

Determining the Specific IFSP Objectives That Can Be Incorporated Into the Routine

The routine task analysis will outline the initial objectives to be incorporated into the routine. However, routines can often be flexible so that they can be changed slightly to incorporate other objectives that are on the IFSP even though they may not have been identified initially as steps in the routine. Some routines may have the "potential" to target as many as 15 short-term objectives. These objectives will not be targeted all at once. Rather, they will be prioritized and systematically added into the routine.

Developing the Routine Sequence

There are three important stages to consider in the course of developing the routine sequence. Each routine has a Preparation phase, an active Participation phase, and a Termination phase. By interacting consistently with

a young child during a routine, there is a higher probability that the child will begin to anticipate some of the easier steps in the routine and participate in the routine to some degree. Table 3 outlines a routine sequence in a routine and shows the order in which the objectives were targeted based on the Mother's skill level and the child's priority needs (dark circles). The videotape will demonstrate one mother integrating primarily the motor objectives into an undressing, bathing, and dressing routine. During the initial part of the tape the mother bathed the child in the kitchen sink. A rubber back form was used to get the child higher in the sink. The child worked on maintaining a neutral position and head control. The family moved shortly after and had a double sink so it was necessary to bathe the child in the bathtub. A bath sling was needed to position the child and to reduce stress on the mother's back. However, in this position, the child does not have to work on a neutral position or head control as actively as before. Other activities were gradually added to the sequence. Table 4 outlines the possible routines that may be targeted.

Utilizing Systematic Family Training Procedures

We often assume that adult learning styles and strategies do not need to be considered in teaching a family a new skill. Any one of us who has learned to play tennis, golf, or learned a foreign language knows that systematic teaching/coaching, demonstration, putting through, and feedback are necessary. Yet, we professionals, who have spent years learning skills and practicing them, expect many families to implement and generalize new skills just because we as professionals "tell" them to. Mother and Dad are often expected to take on the roles of the physical therapist, communication specialist, occupational therapist, and early childhood specialist with little systematic instruction being provided. Whereas, additional data and research is needed in this area, our project is collecting data and family satisfaction on

the implementation of the following training procedures:

1. The interventionist provides the family with the overall objective and the rationale for the objective(s).
2. The interventionist assists the family in obtaining any adaptive equipment that is necessary. The case manager may also assist in this activity if the cost is a consideration.
3. One of the intervention team members conducts the routine, verbally indicating the objective being targeted in the routine and the sequential procedures that are used to elicit the behavior. The other professional videotapes the routine and may also coach the caregiver ("Kat, you may want to lift her arm up when she is drinking"). Mother may also participate in the coaching and ask questions. This procedure allows the professional to determine the difficulty level of the routine. It also allows for the parent to observe the demonstration and to become at ease with the coaching procedures being used.
4. The videotape is left with the parent if the family has a VCR. The majority of families have access to a VCR and have rated this activity as one of the most important. The parent is told to focus on one area of objectives that they have selected as a priority. The concept of partial participation is explained to the parents/siblings and they are encouraged to assist the child to participate in the routine to the extent possible.
5. The parent is the caregiver at the next home visit. The interventionist who is the "expert" on the area being targeted assists the parent by coaching, demonstration, and feedback while the other interventionist videotapes the routine.
6. After the routine is completed, the interventionists and parents observe the tape and point out how the parents implementation of specific

techniques elicits the targeted skill from the child. Parents are given positive feedback. This teaching activity also provides the parent with an opportunity to ask questions and make comments, such as, "Was I giving her enough or too much head support." "Oh, I could have let her participate more there." Our staff has found that parents become excellent observers through this process and serve as their own critics so that to the extent possible, only positive feedback is provided. The videotape is left in the home so the other parent, siblings, and grandparents can view the tape.

7. The interventionists collect data on the level of the parent's skill and child's progress to determine when to target a new area of objectives or to modify the child's program. The data is always shared with the parents so that they do not feel threatened and understand the need for databased programming. Often parents begin to implement other objectives that are in the routine without systematic coaching. It is important not to overwhelm parents by expecting them to incorporate all of the objectives into the routine.

8. When the parents demonstrate that they can incorporate the objectives into the routine, then they select a new routine for targeting. The old routine is reviewed periodically to update the objectives as the child makes progress.

Determining Generalization of Parent Skills

The parent interacts with the child in the next targeted routine. This session is videotaped and later baseline data is collected on that routine to determine if the basic competencies or teaching skills are implemented. If the parent demonstrates these competencies/skills, and incorporates a number of the objectives from the old routine into the new routine, only objectives that

have not been targeted previously are taught. Therefore, parents are provided with only the level of training that they need. Figure 1 shows a multiple baseline design across routines and families to determine if the observation of other family teaching routines (with similar children) will assist the family to implement new skills. The interventionists cannot participate in every possible routine with every family. The family may feel that some routines are more private. This research project is now in the first year and the routine training tapes are being developed.

CONDUCT PROCESS STEPS:

1. Assessments
   - o Multidisciplinary - Multipurpose assessment
   - o Family routines
2. Determine priority skill/needs with family
3. Determine high-preference, low-preference routines and social interactions with family
4. Determine potential special needs based on individual child needs in targeted routines
5. Conduct a "Routine Task Analysis" of targeted routines
6. Determine the level of caregiver competencies
7. Determine what specific IFSP objectives can best be integrated into the routine
8. Write routine sequence based on three (3) stages:
   - o Preparation
   - o Participation
   - o Termination

1. Developing routine analysis by incorporating multiple IFSP objectives into family selected routines

2. Utilizing systematic family training procedures to integrate targeted skills into routines

3. Determining acquisition and generalization of parent competencies

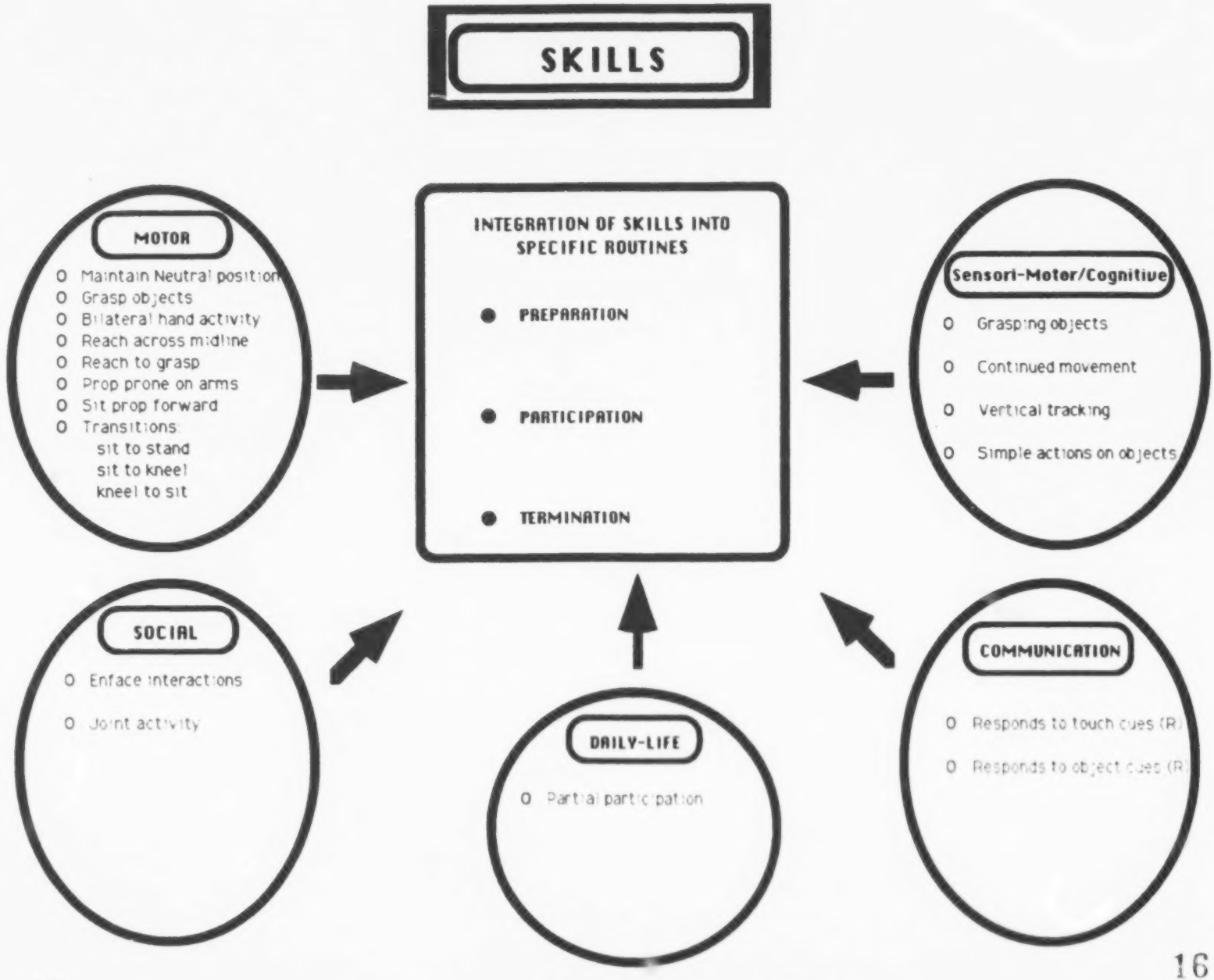

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Table 3
SAMPLE OF UNDRESSING, BATHING, AND DRESSING ROUTINE

Child: Severe motor delay
Severe vision impairment, possibly only light perception
Seizures and medical problems
18 months of age

PREPARATION

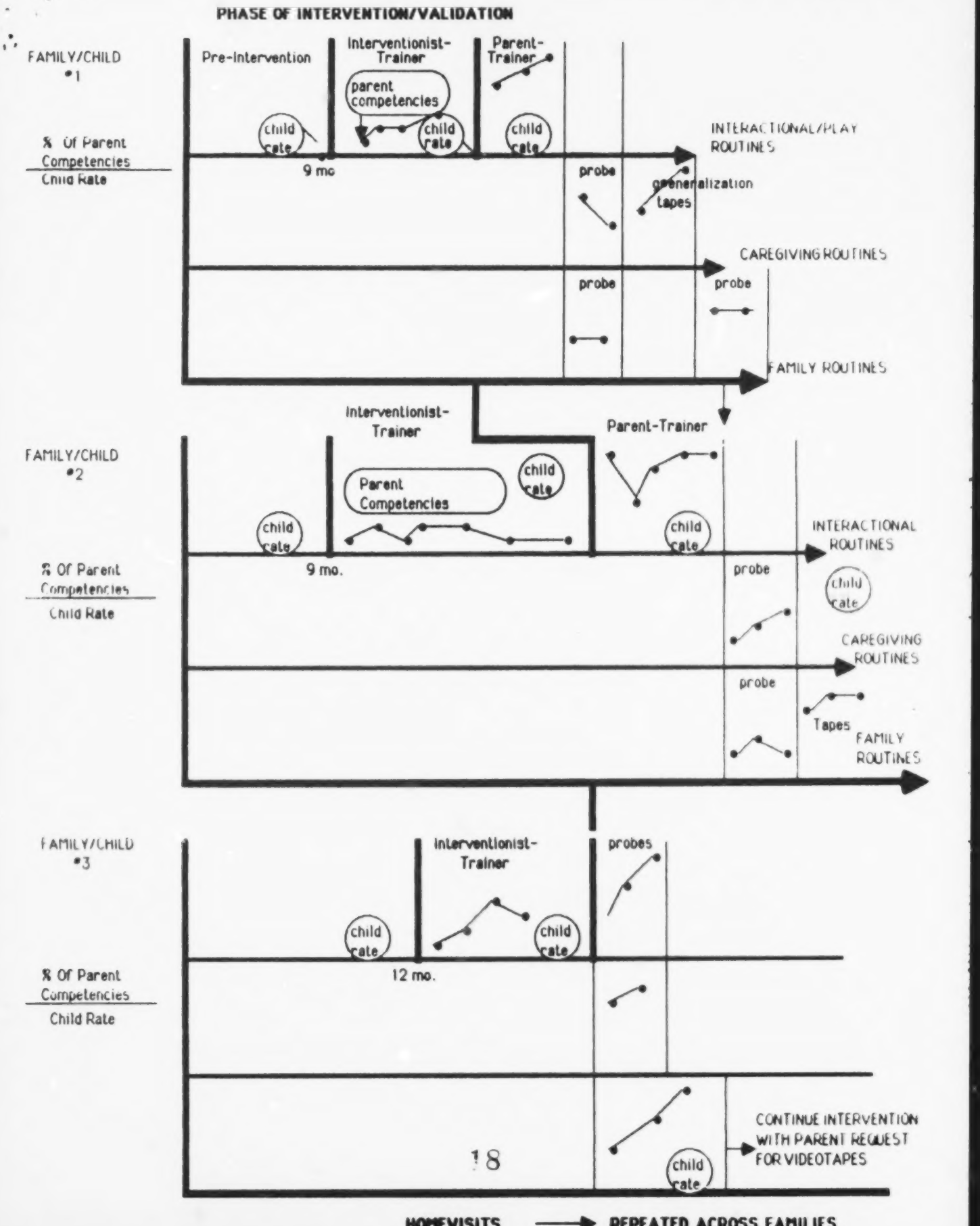
- • Decrease the child's tone by flexing arms and legs in an interactive game with auditory input
- o Announce that bathtime is about to take place by giving the child the washcloth - Child grasps washcloth for 5 seconds
- o Announce that the child will get undressed and provide a touch cue
- • Child assists in holding up arms while pajama arms are removed
- o Mother plays "peek-a-boo" and child assists in removing pajama top
- • Child is positioned to work on sitting erect, propping, and for active head control
- • Mother assists child to cross midline in rubbing body parts
- • Child assists in removing socks and grasps socks for 3-5 seconds
- o Mother assists child to "give socks" (not current objective)
- o Mother provides touch and object cue for bathtime and child grasps and maintains grasp while in transition
- • Mother carries the child in the correct position

PARTICIPATION

- • Mother positions child in sink with legs crossed and hips back
- • Mother positions herself so that the child works on active head support
- o Mother lets the child feel each object that is used
- o Mother assists child to participate in some washing - Child continues movement
- • Mother extends the child's arms up for physical movements (slow and hold)
- • Mother tickles the child's chest if head goes back
- o Mother announces that it is time to wash hair
- • Mother picks child up correctly and places child with hips down to get as little head extension as possible
- o Mother provides opportunities for the child to touch her or vocalize for "more head washing"
- o Mother announces "all done" and provides cue for up - Child lifts hands (Later, toy play can be incorporated in the routine when the child is demonstrating more active motor control)

TERMINATION

- • Mother dries child's hair - Child holds head erect and maintains upright body position - Child props on one arm
- o Mother provides opportunity for child to request "more" - Child touches or vocalizes for more
- o Mother names the clothing item being put on and lets child grasp object for 3-5 seconds
- o Mother cues "give me" - later - Child releases
- • Mother uses motor exercises to extend arms up
- • Child participates in final movements of putting clothes on
- o Mother positions child in sit-to-kneel, sit-to-stand, and kneel-to-sit positions during dressing
- • Mother assists child to reach across midline for motor activities
- o Mother announces termination of the activity


PHASE OF INTERVENTION/VALIDATION
FAMILY/CHILD #1
% Of Parent Competencies
Child Rate
Pre-Intervention
Interventionist-Trainer
Parent-Trainer
parent competencies
child rate
child rate
child rate
9 mo
INTERACTIONAL/PLAY ROUTINES
probe
generalization tapes
CAREGIVING ROUTINES
probe
probe
FAMILY ROUTINES
FAMILY/CHILD #2
% Of Parent Competencies
Child Rate
Interventionist-Trainer
Parent-Trainer
Parent Competencies
child rate
child rate
child rate
9 mo.
INTERACTIONAL ROUTINES
probe
child rate
CAREGIVING ROUTINES
probe
Tapes
FAMILY ROUTINES
FAMILY/CHILD #3
% Of Parent Competencies
Child Rate
Interventionist-Trainer
probes
child rate
child rate
12 mo.
CONTINUE INTERVENTION WITH PARENT REQUEST FOR VIDEOTAPES
child rate
HOMEVISITS
REPEATED ACROSS FAMILIES

Interactor/Child
Skills Across Routine

0 = Never occurs
1 = Occurs occasionally
2 = Occurs frequently

Name:_____	Routine: Date: Frequency	Rating	Routine: Date: Frequency	Rating	Routine: Date: Frequency	Rating
Interactive Teaching Behavior						
1. Prepare the child for activity						
2. Announces what will happen						
3. Handling/position						
4. Placement of material						
5. Responsiveness						
6. Opportunities to communicate						
7. Special Adaptations						
8. Partial participation						
9. Provide appropriate feedback						
10. Provide consistent prompts/cues						
11. Wait						
12. Encourage sibling interaction						
	% Score Reliability	____ ____	% Score Reliability	____ ____	% Score Reliability	____ ____
Individualized Objectives						

Note: Watch for missed opportunities